

In such cases the vapor is not saturated with respect to the covering of the wet bulb, altho it is supersaturated with respect to the nuclei or smaller drops of the preceding stages of fog growth.

There seems to be no reason to discriminate between fog and higher clouds in respect to the general aspects of condensation, evaporation, and stable existence in unsaturated air,³⁰ tho the distribution of the various kinds of nuclei probably varies with height.

³⁰ It appears from the observations made in Germany from manned balloons that even the vapor of dense clouds is rarely saturated with respect to the psychrometer. In 61 ascents discus by Dr. Reinhard

It is suggestive to note here that at Blue Hill it has been found that raindrops are of all sizes from those of the finest mist to the largest drops; and it has been found necessary to adopt an arbitrary definition of what should be recorded as rain.

Those observations combined with the observations under discussion, therefore, tend to show a regular gradation in the size of water particles from the smallest, invisible condensation nuclei up to the largest raindrop.

Süring, in Wissenschaftliche Luftfahrten, Bd. 3, S. 133 *et seq.*, clouds were past thru by the balloons 43 times, and 100 per cent relative humidity was found in 6 clouds only.

CLIMATOLOGICAL SUMMARY.

By MR. JAMES BERRY, Chief of the Climatological Division.

TEMPERATURE AND PRECIPITATION BY SECTIONS, JANUARY, 1907.

In the following table are given, for the various sections of the Climatological Service of the Weather Bureau, the average temperature and rainfall, the stations reporting the highest and lowest temperatures with dates of occurrence, the stations reporting greatest and least monthly precipitation, and other data, as indicated by the several headings.

The mean temperatures for each section, the highest and

lowest temperatures, the average precipitation, and the greatest and least monthly amounts are found by using all trustworthy records available.

The mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observation. Of course the number of such records is smaller than the total number of stations.

Section.	Temperature—in degrees Fahrenheit.										Precipitation—in inches and hundredths.										
	Section average.		Departure from the normal.		Monthly extremes.				Section average.		Departure from the normal.		Greatest monthly.				Least monthly.				
	Station.	Highest.	Station.	Lowest.	Date.	Station.	Highest.	Lowest.	Date.	Station.	Amount.	Station.	Amount.	Station.	Amount.	Station.	Amount.	Station.	Amount.		
Alabama.....	54.4	+10.2	Pushmataha.....	84	15 ^t	Riverton.....	13	28	2.20	-2.56	Dadeville.....	4.00	Letohatchie.....	1.03							
Arizona.....	44.5	+1.2	Wetumpka.....	84	9 ^t	Flagstaff (<i>a</i>).....	-10	2	2.66	+1.16	Huachuca Reservoir.....	15.96	Parker.....	0.13							
Arkansas.....	49.2	+9.7	Aztec.....	78	27 ^t	Pond.....	-8	26	5.80	+1.38	Malvern.....	11.80	Montrose.....	1.95							
California.....	43.9	-1.0	Yuma.....	78	28 ^t	Tamarack.....	-14	17	7.46	+2.26	Helen Mine.....	27.21	Mammoth Tank.....	0.00							
Colorado.....	27.9	+4.4	Craftonville.....	90	22	Antelope Springs ...	-34	3	0.81	-0.12	Corona.....	5.60	2 stations.....	0.00							
Florida.....	63.4	+5.3	Lamar.....	76	4	Molino.....	25	22, 23	0.80	-2.24	Pensacola.....	4.05	New Smyrna.....	0.00							
Georgia.....	54.4	+9.9	Clermont.....	88	2 ^t	Diamond.....	17	28	1.29	-2.52	Eatonton.....	3.06	Valdosta.....	0.10							
Hawaii.....	70.0 ^t		Statesboro.....	84	14 ^t	Valdosta.....	84	14 ^t	12.07 ^t	...	Olokele Ditch, Kauai.....	34.04	Kalopa, Hawaii.....	1.10							
Idaho.....	22.6	-3.9	Volcano House, Haw.....	90	23	Chesterfield.....	32	16	0.84	+0.84	Laudore.....	8.28	Salmon.....	0.58							
Illinois.....	31.1	+4.8	Hotsping.....	61	29	Zion.....	-11	26	5.69	+3.22	Equality.....	10.90	Lanark.....	2.67							
Indiana.....	34.0	+6.7	Tilden.....	77	19	Auburn.....	-7	23	6.96	+4.27	Marengo.....	11.83	Lima.....	2.94							
Iowa.....	18.8	-1.0	Farmersburg.....	77	19	Forest City.....	-22	30	1.52	+0.57	Burlington.....	5.30	Atlantic.....	0.20							
Kansas.....	31.2	+1.8	Keokuk.....	68	7	Inwood.....	-22	30	1.52	+0.57	Yates Center.....	7.16	Coolidge.....	0.05							
Kentucky.....	43.2	+8.6	3 stations.....	75	6, 7	Ellsworth.....	-7	26	2.38	+1.53	Owensboro.....	12.73	Williamsburg.....	1.62							
Louisiana.....	60.7	+10.8	Loretto.....	83	29	Williamsburg.....	-11	29	8.02	+4.02	Sugartown.....	4.45	Robeline.....	0.55							
Maryland and Delaware.....	35.8	+4.1	Lafayette.....	89	7, 13	Plain Dealing.....	20	27	1.83	-2.69	Deer Park, Md.....	7.00	Millsboro, Del.....	1.28							
Michigan.....	20.6	+0.5	Mifflord, Del.....	77	7, 8	Humboldt.....	-42	30	3.42	+1.27	Vassar.....	6.80	Humboldt.....	0.66							
Minnesota.....	3.8	-4.8	Iundee.....	69	19, 20	Bagley.....	-45	22	1.17	+0.47	Mount Iron.....	2.70	Pipestone.....	0.14							
Mississippi.....	56.0	+9.8	New Richmond.....	44	5 ^t	St. Charles.....	44	6 ^t	Hernando.....	16, 26, 28 ^t	Walnut Grove.....	6.58	Fayette.....	0.15							
Missouri.....	34.3	+3.8	Greenwood.....	83	14 ^t	Leakesville.....	83	15 ^t	Holly Springs.....	16	28 ^t	Conception.....	1.26	Graham.....	0.22						
Montana.....	6.7	-12.7	Caruthersville.....	76	13	Unionville.....	-5	28	5.10	+2.85	Saltse.....	6.79	Loup.....	T.							
Nebraska.....	19.9	-1.2	3 stations.....	55	3 dates	Chinook.....	-45	14	1.60	+0.77	Wisner.....	2.14	Carson Dam.....	0.06							
Nevada.....	27.0	-1.9	Imperial.....	64	23	Agate.....	-24	3	0.50	-0.10	Danielson, Conn.....	5.62	Greenville, Me.....	0.98							
New England*.....	20.5	-1.1	Wadsworth.....	73	31	Squaw Valley.....	-28	16	2.22	+0.93	Chatham.....	5.80	Cape May C. H.....	1.93							
New Jersey.....	31.8	+1.8	3 stations.....	65	7	Oquossor, Me.....	-45	17	2.81	-0.85	Cloudcroft.....	6.32	Valley.....	T.							
New Mexico.....	38.0	+5.6	Cape May C. H.....	71	7	Layton.....	-19	27	3.50	-0.30	Leola.....	2.95	Howard.....	0.25							
New York.....	22.5	+0.9	Monument.....	77	22	Dulce.....	-27	3	1.19	+0.68	Union City.....	8.20	McGhee.....	0.45							
North Carolina.....	48.1	+8.2	Otto.....	74	20	Indian Lake.....	-39	24	2.94	+0.08	Arthur City.....	4.10	Arthur City.....	0.00							
North Dakota.....	6.2	-13.6	Southern Pines.....	84	15	North Lake.....	-35	24	2.94	+0.08	North Lake.....	5.28	Harkness.....	0.99							
Ohio.....	32.2	+4.4	Willow City.....	48	1	Saxon.....	-4	28	0.77	-3.02	Southport.....	2.35	2 stations.....	0.05							
Oklahoma and Indian Territories.....	43.2	+5.8	Ironton.....	75	3	Willow City.....	-45	14	1.40	+0.81	Lakota.....	3.94	Berthold Agency.....	0.30							
Oregon.....	30.6	-4.4	Durant, Ind. T.....	80	18 ^t	Green Hill.....	-23	27	6.11	+3.41	Green.....	9.55	Bowling Green.....	3.43							
Pennsylvania.....	30.0	+2.4	S. McAlester, Ind. T.....	80	13 ^t	Fort Reno, Okla.....	8	27	2.63	+1.40	Calvin, Ind. T.....	5.09	Kenton, Okla.....	0.27							
Porto Rico.....	70.9		Bay City.....	71	23	Prineville.....	-20	15	6.64	+0.81	Port Orford.....	19.56	Riverside.....	0.60							
South Carolina.....	53.4	+7.7	Irwin.....	75	4	Pocono Lake.....	-23	27	4.36	+1.12	Confluence.....	9.69	Center Hall.....	2.14							
South Dakota.....	6.4	-8.9	Anasco.....	97		Wellshoro.....	-23	24			Barros.....	7.67	Juan Diaz.....	0.00							
Tennessee.....	48.2	+10.5	Conway.....	89	13 ^t	Cayee.....	-46	28	2.16		Georgetown.....	1.91	2 stations.....	T.							
Texas.....	55.5	+8.6	Florence.....	89	13 ^t	Darlington.....	-18	29	0.71	-2.88	Leola.....	2.95	Howard.....	0.25							
Utah.....	28.0	+2.1	Fort Meade.....	60	23	Dillon.....	-18	29			Union City.....	8.20	McGhee.....	0.45							
Virginia.....	41.4	+6.0	3 stations.....	79	18	Kidder.....	-33	15	1.17	+0.79	Arthur City.....	4.10	5 stations.....	0.00							
Washington.....	24.3	-7.7	Eagle Pass.....	92	13	Henrietta.....	-10	26	1.04	-1.20	Ranch.....	-20	2 stations.....	0.00							
West Virginia.....	38.7	+6.4	3 stations.....	66	26, 28	Tropic.....	-20	17 ^t	2.30	+1.33	Park City.....	10.96	Antigo.....	0.44							
Wisconsin.....	13.0	-2.0	Sutton.....	76	3	Arvonia.....	-6	28	1.65	-1.52	Lincoln.....	3.36	Cheyenne (Ex. Far.)	0.05							
Wyoming.....	18.2	-1.4	Saratoga.....	69	6	Twisp.....	-23	14	4.40	-0.13	Clearwater.....	16.59	Danville.....	0.33							
						Cuba.....	-15	28	6.41	+2.92	Pickens.....	11.54	Connelly.....	0.75							
						Downing.....	-40	27	2.06	+0.92	Hillsboro.....	4.05	Lost City.....	2.35							
						Hayward.....	-40	30 ^t			South Pass City.....	5.30	Antigo.....	0.44							

* Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut.

+ 46 stations, with an average elevation of 640 feet.

† 140 stations.